

CLAIMS

What is claimed is:

1. A trip system for a circuit breaker having a calibration system, the calibration system comprising:
 - a retainer;
 - a tripping member responsive to an electric current;
 - an actuator retained by the retainer with a degree of freedom therebetween;
 - a spring adjuster adjustably engaged with the actuator and the tripping member; and
 - a bias spring disposed for biasing the actuator in a first direction;wherein movement of the spring adjuster absent movement of the actuator and the tripping member results in a change in the bias spring force and no change in the position of the tripping member, and movement of the tripping member absent movement of the spring adjuster results in a change in the position of the tripping member and no change in the bias spring force.
2. The trip system of Claim 1, wherein:
 - the spring adjuster is threadably engaged with the actuator and threadably engaged with the tripping member;
 - the spring adjuster is separately movable in an axial direction in response to it being rotated; and
 - the tripping member is separately movable in an axial direction in response to it being rotated.

3. The trip system of Claim 2, further comprising a coil assembly, the coil assembly comprising:

a coil accepting of an electric current and generating a magnetic flux in response thereto; and

a flux path proximate the coil and having a stationary pole face;

wherein the tripping member includes a movable pole face disposed at a second end thereof, the movable pole face arranged proximate the stationary pole face;

wherein an air gap is disposed between the stationary pole face and the movable pole face; and

wherein the dimension of the air gap is responsive to movement of the tripping member.

4. The trip system of Claim 2, wherein the spring adjuster is threadably engaged with the actuator and threadably engaged with the tripping member about a common axis.

5. A trip system for a circuit breaker having a calibration system, the calibration system comprising:

a bias spring for establishing a trip force;

a tripping member responsive to a magnetic flux across an air gap for overcoming the trip force and for generating a trip displacement;

means for adjusting the trip force in the absence of adjustment to the air gap; and

means for adjusting the air gap in the absence of adjustment to the trip force.

6. The trip system of Claim 5, wherein:

the means for adjusting the trip force comprises means for adjusting a spring adjuster relative to the tripping member; and

the means for adjusting the air gap comprises means for adjusting the tripping member relative to the spring adjuster.

7. The trip system of Claim 6, wherein the calibration system further comprises:

- a retainer; and
- an actuator retained by the retainer with a degree of freedom therebetween;
- wherein the means for adjusting the trip force comprises means for adjusting the spring adjuster relative to the actuator.

8. The trip system of Claim 5, wherein the means for adjusting the trip force and the means for adjusting the air gap comprise means for axially adjusting the trip force and the air gap about a common axis.

9. A method for calibrating a trip unit of a circuit breaker, comprising:

- fixing the position of a spring adjuster to prevent a change in trip force;
- adjusting the position of a tripping member to change the dimension of a first air gap at the trip unit;
- fixing the position of the tripping member to prevent any further change in the first air gap;
- fixing the position of an actuator to prevent a change in a second air gap at the trip unit; and
- adjusting the position of the spring adjuster to change the trip force.

10. The method of Claim 9, wherein:

- the adjusting the position of the tripping member comprises rotating the tripping member; and
- the adjusting the position of the spring adjuster comprises rotating the spring adjuster.

11. The method of Claim 10, wherein:

- the rotating the tripping member and the rotating the spring adjuster comprises rotating each about a common axis.